Appl. No.:   09/727,032
Amdt. dated December 18, 2003
Reply to Office action of October 22, 2003

ARGUMENTS / REMARKS

Applicant respectfully acknowledges receipt of the Final Office Action mailed October 22, 2003. In that Office Action, the Examiner: (1) objected to claim 1; (2) rejected claims 16-17 and 20 under 35 USC § 102(b) based on US Patent No. 5,448,701 to *Metz*; (3) rejected claims 1, 4-6, 8-15, and 18-19 under 35 USC § 103 based on *Metz* and US Patent No. 6,338,133 to *Schroter*; and (4) rejected claim 7 based under 35 USC § 103 based on *Metz*, *Schroter*, and an article co-authored by Peterson and Silberschatz. Applicant has cancelled claims 4 and 16, and has amended claims 1 and 18 (among others), and now respectfully requests reconsideration for the reasons that follow.

I.   OBJECTION TO CLAIM 1

The Examiner objected to claim 1 based on minor informalities. Although Applicant respectfully disagrees with the Examiner's objection, claim 1 has been amended to resolve the minor informality noted by the Examiner. The amendment is not intended to change the scope of claim 1.

II.   REJECTION UNDER 35 USC § 102(B)

The Examiner rejected claims 16-17, and 20 based on US Patent No. 5,448,701 to *Metz*. Applicant respectfully requests reconsideration. Claim 16 has been cancelled and claim 18 has been rewritten as an independent claim. Claim 18 requires, among other things, that "the act of determining the workload associated with each bus device includes receiving a signal from each device indicating a number of operations awaiting execution in that device." Thus, by its terms, claim 18 requires that a bus device requesting access to a bus indicate the number of operations awaiting execution.

The *Metz* patent was discussed at length in the prior Response filed by Applicant. *See* pages 11-12 of the Response to First Office Action. That discussion will not be repeated here except to note that both the Examiner and Applicant agree that *Metz* does not teach or disclose a system in which the devices requesting access to a bus indicate the number of operations awaiting execution. Thus, *Metz* does not anticipate independent claim 18. Claims 17 and

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20 depend from claim 18, and thus also cannot be anticipated by *Metz*. As such, claims 18 and the claims dependent thereon will be discussed in conjunction with the Examiner's rejections under 35 USC § 103.

III.   **REJECTION UNDER 35 USC § 103**

The Examiner rejected claims 1, 4-6, 8-15, and 18-19 under 103 based on the combination of *Metz* and *Schroter*. Claim 7 was rejected under these 2 references plus the Peterson, et al. article. Claim 4 has been cancelled and claim 1 has been amended.

Each of independent claims 1, 11, and 18 all require that a bus device requesting access to the bus indicate the number of operations awaiting execution on the bus. This feature is nowhere taught or suggested by the network system of *Metz*. Thus, the first issue is whether any other analogous reference teaches this feature, and if so, whether there is a suggestion or motivation in the prior art to combine this feature with the network described in *Metz*. The Examiner contends that *Schroter* does disclose such a feature, and further contends that it would have been obvious to combine this alleged teaching in *Schroter* with the network of *Metz*. Applicant respectfully disagrees that the *Schroter* patent is analogous; that the *Schroter* patent discloses identifying the number of operations awaiting execution on a bus; or that the teachings of the *Schroter* patent would have been implemented in a network such as *Metz*. For any and all of these reasons, Applicant respectfully submits that the claims of the application are in condition for allowance.

As Applicant noted in the prior Response, *see* pages 13-14, the *Schroter* patent relates to the issuance of speculative branch instructions internal to the processor. The *Schroter* patent teaches varying the amount of resources dedicated to branch predictions in the processor based on the number of instructions pending in the processor's execution unit. *Schroter* neither teaches nor discloses any feature of bus arbitration or controlling bus access among multiple bus devices. Instead, the *Schroter* patent describes allocation of resources inside the processor core, based on operations occurring solely

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internal to the processor core. Simply put, *Schroter* has nothing to do with bus arbitration.

In addition, the *Schroter* patent does not disclose identifying the number of operations awaiting execution on a bus. Instead, the *Schroter* patent controls the dispatch of speculative branch instructions (instructions that may be used if a branch occurs as predicted) to the execution unit based on the available capacity of the execution unit. Even if *Schroter* were considered an analogous teaching, it does not appear that *Schroter* attempts to identify operations pending at the source device – instead it is focused on the capacity of the target device.

Despite the absence of any relevance to bus arbitration, the Examiner contends that it would be obvious to take the teachings of *Schroter*, which are directed to processor resource allocation based on capacity of the processor's execution unit, and apply those teachings to the computer network of *Metz*. As noted, *Metz* discloses a computer network system in which certain computers on the network are given priority on the network if the requesting computer system has an excessive number of operations awaiting transmission on the network, *and* if the pending operations are to a computer system that is capable of receiving that operation. The Examiner fails to show any motivation or suggestion from either *Metz* or *Schroter* to take the teachings of *Schroter* applicable to resource allocation internal to a processor and relating to branch instructions, and to apply those teachings to the network of *Metz*. Given the absence of such a motivation, and because of the non-anologus nature of the teachings of *Schroter*, Applicant respectfully submits that this rejection is improper, and one motivated by Applicant's disclosure, and not the prior art. Lastly, even if combined, the two references simply do not meet the limitations of the present claims since neither reference suggests or teaches that a device requesting bus access identify the number of operations awaiting execution on the bus.

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For at least these reasons, and the reasons articulated in the prior Response, Applicant respectfully submits that all pending claims are in condition for allowance.
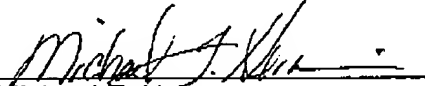
IV.   CONCLUSION

Applicant respectfully requests reconsideration and allowance of the pending claims.   If the Examiner feels that a telephone conference would expedite the resolution of this case, he is respectfully requested to contact the undersigned.

In the course of the foregoing discussions, Applicant may have at times referred to claim limitations in shorthand fashion, or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other limitations can be ignored or dismissed. The claims must be viewed as a whole, and each limitation of the claims must be considered when determining the patentability of the claims. Moreover, it should be understood that there may be other distinctions between the claims and the prior art which have yet to be raised, but which may be raised in the future.

If any fees or time extensions are inadvertently omitted or if any fees have been overpaid, please appropriately charge or credit those fees to Hewlett-Packard Company Deposit Account Number 08-2025 and enter any time extension(s) necessary to prevent this case from being abandoned.

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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